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ABSTRACT

This auto-instructional unit contains a series of questions and answers about checklists. After the instructional sequence there follows a short mastery test, a list of guest or enrichment activities, and an appendix containing nine checklists relating to six broad curriculum areas. (Author)

IMPROVING SKILLS IN DEVELOPING CHECKLISTS

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ABSTRACT

This auto-instructional unit contains a series of questions and answers about checklists. After the instructional sequence there follows a short mastery test, a list of guest or enrichment activities, and an appendix containing nine checklists relating to six broad curriculum areas.

WHEN I COMPLETE THIS UNIT, WHAT SHOULD I BE ABLE TO DO?

1. Determine whether or not to use a checklist when given a number of evaluative situations.
2. Develop a checklist
3. Use a checklist.

WHAT IS A CHECKLIST?

A checklist is an observational aid for process and product activities. A checklist provides a basis for tallying observational data. The person using the checklist makes no qualitative judgement. The checklist is constructed to yield a YES or NO response (indicating the presence or absence) to a list of desired pupil performances.

CAN YOU GIVE ME AN EXAMPLE OF A CHECKLIST?

We'll do more than that. We'll give you several examples. The first example is a checklist to determine if a sewing student has mastered all the necessary steps in setting up a machine.

Checklist for Preparing to Sew on a Machine

____1. Wind bobbin
____2. Thread bobbin case
____3. Thread upper machine
____4. Pull up bobbin thread
____5. Set stitch length
____6. Insert fabric
____7. Position needle
____8. Lower presser foot

Student's Name _____ Date _____

The first example involved a process. Our second example will involve assessment of a product.

Checklist for Ring Project

	YES	NO	COMMENTS
1. Is the bezel smooth?			
2. Does the bezel hold the stone tightly in place?			
3. No excess solder on any of the soldered joints?			
4. Is the shank round?			
5. Is the shank soldered in the center of your backplate?			
6. Do the bezel and backplate appear to be one piece of metal?			
7. Do the two pieces of flat wire used in the shank appear to be one piece of silver?			
8. Was all filing done lightly, so there are no scratches left on your silver?			
9. Were all metal discolorations removed by buffing?			
10. Does the ring fit you or whoever you made it for?			

Our third example is a Mathematics Checklist for use in the primary grades.

Mathematics Checklist
Primary Level

Name: _____ Date: _____

Observer: _____

____1. Counts to ten without error
____2. Points to an empty set
____3. Puts objects into sets of 1 to 5
____4. Places objects in one-to-one correspondence
____5. Points to pennies, nickels, and dimes
____6. Counts to 50 by 2's
____7. Compares objects and shows which is bigger and smaller

WHAT ARE SOME OF THE ADVANTAGES OF CHECKLISTS?

The obvious advantages are that much information can be presented in summary form (very frequently on one page) and much information can be recorded quickly. Also, the rating procedure is very objective since the items on a checklist should have a behavioral reference. The last point would indicate that checklists may have a particularly significant role as the evaluative device in learning design systems based on instructional objectives.

The checklist can be used by the student himself in analyzing his own mastery of the required steps. For example, look at the short checklist below which stresses "how to" in given steps.

CHECKLIST
HOW TO WEAVE ON A FRAME LOOM

	YES	NO	COMMENTS
1. Is your weft placed around the shuttle, resting in the grooves? (Step 2)			
2. Are the rows of weft beat tightly together so there are no gaps between the rows? (Step 3)			
3. Is the salvage straight on both sides of the weaving? (Step 3)			
4. Are all ends of the warp threads tied off securely when the weaving is completed? (Step 4)			
5. Are the loose, tied warp threads sewed behind the finished woven project so that they don't show? (Step 4)			

Keep in mind that there is nothing inappropriate in letting students see and use the evaluative device which the teacher uses or will use to assess pupil achievement. In our case we are not "teaching the test". It can be a significant instructional aid for the student in that the use of the checklist calls attention to all the essential steps in a complex task.

WHEN SHOULD I NOT USE A CHECKLIST?

If you can't list the desired behaviors of the student in advance, you can't checklist them. Usually an anecdotal record is the evaluative device for recording behaviors which can't be determined in advance. Also, if you must make a judgment of quality, you can't properly employ the checklist device. The rating scale device is used for recording observations involving a judgment of quality. Finally, recording frequency of performance is better done with frequency or participation charts rather than with checklists.

WHEN SHOULD I USE A CHECKLIST?

Use a checklist when you want to record information concerning sequence of activities. Many psychomotor tasks like our first example (p. 1) involve several component sequential parts. The use of the checklist in this instance can yield diagnostic power in the sense that if a student can not perform the complex task, a checklisting of the sub-parts may reveal an area or two of weakness.

Use a checklist when some kind of desired performance is composed of several essential parts (not necessarily sequential as in the paragraph above) as in operating machinery or equipment.

Checklists can be developed for assessing written products such as proposals, unipacs, business letters, maps constructed by students, and outlines.

HOW DO I DEVELOP A CHECKLIST?

The starting point for a checklist list will be the instructional or behavioral objectives. The instructional objectives are translated almost verbatim into the list of statements on the checklist. Let's assume we have an instructional objective which states that a student will make an independent choice and check out a library book. More formally it may look like this:

> Given an inspirational talk by the media director and an outline showing the difference between fiction and non-fiction, the student will choose a book, check out a book, and report on the book within one week, etc.

The obvious statements to include in the checklist would be (1) the student chooses library book, (2) the student checks out the library book and possibly (3) the student returns the library book in the allotted time.

A good rule of thumb is that if you can't behaviorally state desired pupil performances then you can't develop a checklist. There is an obvious connection between behavioral objectives and items on a checklist.

HOW WILL I KNOW THAT I KNOW WHEN TO USE CHECKLISTS?

Very elegant question! It sounds almost epistemological but for all practical purposes if you can answer all the following questions then it can be said that you know when to use checklists. Here are the questions: (Circle your response)

1. Would you use a checklist for recording frequency of performance?

   YES NO

2. Would you use a checklist for recording student performance on specifically stated tasks?

   YES NO

3. Would you use a checklist to record qualitative judgments?

   YES NO

4. Checklists can be used to record performance on both process and product activities.

   TRUE FALSE

5. What is the first step in developing a checklist?

   A. Sequence the tasks
   B. Identify instructional objectives.
   C. Make an outline with YES and NO columns.

WHAT ARE THE ANSWERS?

1. NO
2. YES
3. NO
4. TRUE
5. B

QUEST ACTIVITIES

1. Check the Cartwright and Cartwright text listed in the bibliography on pp. 108 and 109 for an innovative use of the checklist. Pay close attention to directions on p. 109. Describe in a short paragraph the nature of this innovation.
2. Start a checklist bank by reviewing tests and measurement texts in the professional library of your school or university.
3. Determine how many teachers in your building (or school district) currently use checklists.
4. Can you think of non-school situations where a simple checklist would make life easier? Are shopping lists checklists? How many times have you gone on a trip and forgotten to pack something like toothpaste?

BIBLIOGRAPHY

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Davis, R.H., Alexander, L.T., Yelon, S.L. Learning System Design - an approach to the Improvement of Instruction. New York: McGraw-Hill, 1974.

Lindvall, C.M. Measuring Pupil Achievement and Aptitude. New York: Harcourt, Brace, & World, 1967.

NUMBER CONCEPTS

OBJECTIVES	YES	NO
The student can orally tell the teacher how many objects are in a given set.		
The student can make a set out of concrete objects provided by the teacher, to match the stimulus set on the test booklet.		
The student can match sets whose members do not always match.		
The student can make a set equivalent by telling how many objects to add to the smaller set.		
The student can make a larger set by building upon a smaller set that he already has learned.		
The student can match the numeral to the set that shows that many objects.		
By using pictures of the standard models of sets, the student can count to join two sets together to make a larger set.		
The student can write the correct numerals.		
The student can prove that + = a certain number by counting the objects in the two subsets.		
The student can correctly draw a model of the number that comes before and after a given set.		
The student can write correctly the numeral that comes before or after a given numeral.		

APPENDIX A

Checklists

1. Theme Writing
2. Apron Project - Home Economics
3. Lab Experiment
4. Paperfolding Skills
5. Map Reading & Recognition
6. Second Level Arithmetic Problems
7. Home Economics Study Plan
8. Polynomials
9. Trigonometry

THEME WRITING - Checklist

OBJECTIVES	YES	NO
The student writes an interesting introduction.		
The student uses correct punctuation.		
The material is well organized.		
The student's paper is summarized well.		
Each paragraph contains unity of material.		
Details are logically arranged, thus coherence is achieved.		
The student has selected a topic which is interesting and one which he can write on competently.		
The student has written a thesis statement.		
The student has written a title for his theme.		
The theme is neatly written or typed.		

J. DeJoseph

Apron Project

OBJECTIVES	YES	NO
The student can place pattern pieces on material by following the pattern lay-out instructions.		
The student can match up the designs of material so that the pieces will line-up well when sewn together.		
The student can sew straight seam lines.		
The student can correctly place and sew rick-rack.		
The student can sew the gathering stitch then gather the skirt piece to fit the waistband.		
The student can do a blind hem stitch by hand.		
The student can neatly sew on snaps, tie loose threads and cut them.		
The student can sew the side seams of the skirt piece in a straight line and not allow any frayed ends to be visible.		
The student can sew the pockets such that they form a square.		
The student can neatly and precisely sew the waistband onto the skirt piece and the tie straps onto the waistband.		
The student can neatly sew rick-rack along the edges of the bib top after she has sewn the tie straps at the proper angle in the top corners.		
The student can demonstrate her understanding of sizing by hemming her apron two to three inches above her skirt length.		
The student can correctly tell how she did any of the above procedures when questioned orally by the teacher.		

K. Otterson

Checklist to be used by student when writing up a scientific lab experiment.

	YES	NO
1) Did I include an introduction?	____	____
2) Did I state the hypothesis clearly?	____	____
3) Did I include a complete list of materials used?	____	____
4) Did I write a detailed procedure in sequential order?	____	____
5) Are the results in precise and simple form?	____	____
6) Did I draw valid conclusions and state them clearly?	____	____

B. Ferranti
M. Ligotino
C. Chordas

Checklist for Paperfolding Skills

Mathematics, Grades 7-12

Objectives-- students should master the following basic constructions:

	YES	NO
1. Straight line		
2. Straight line through a given point		
3. A line perpendicular to a given straight line		
4. The perpendicular to a line at a point on the line		
5. A line perpendicular to a given line and passing through a given point P not on the line.		
6. The perpendicular bisector of a given line segment.		
7. A line parallel to a given straight line		
8. A line through a given point and parallel to a given straight line		
9. The gisector of a given angle		
10. The location of equally spaced points along a line AB		
11. Formation of a right angle		

S. Ferreri

GEOGRAPHY grade 9

MAP READING & RECOGNITION

OBJECTIVES	YES	NO
Student can orally state names of continents		
Student can point to continents and state the approximate location (e.g., N,S,E,W) below or above the equator.		
Student knows and can point to on map the difference between latitude and longitude		
Student can locate major oceans and rivers on map (Atlantic, Pacific, Nile, Mississippi)		
Student can orally state and locate on map the states in the United States and their respective capitols.		
Student can discuss advantages and disadvantages of particular geographic locations and use map as illustration (proximity of water routes, desert).		
Student can locate major mountain ranges and deserts (Alps, Sahara).		
Student can construct map showing major manufacturing centers of United States.		
Student is able, through use of maps and graphs to show why some countries are more economically advantaged than others (e.g. rainfall, industry)		

A. Trupiano

CHECKLIST

This checklist will be used to determine adequate knowledge of second level arithmetic problems in order to advance to a third level arithmetic program.

OBJECTIVES	YES	NO
1. The student knows one digit addition.		
2. The student knows two digit addition without carrying.		
3. The student knows two digit addition with carrying.		
4. The student knows one digit subtraction.		
5. The student knows two digit subtraction without borrowing.		
6. The student knows two digit subtraction with borrowing.		
7. The student has mastered his times tables from 1-5.		
8. The student has mastered his times tables from 5-9.		
9. The student has mastered the 0 times tables.		

G. Backus

Below are listed some of the things that can be studied in home economics. In the first column labled "Have Studied," put an X if you have already studied the material and leave it blank if you have not. In the second column labled "Want to Study," put an X if you want to study it this year and leave it blank if you do not. In column three, labled "Have Studied, but Want to Study in More Detail," put an X if this is true and leave it blank if it is not.

Have Studied	Want to Study	Have Studied, but Want to Study in Detail	
			1. Purchasing food
			2. Preparing food
			3. Planning meals
			4. Serving meals and setting the table
			5. Selecting clothing
			6. Clothing care
			7. Clothing construction
			8. Pattern and fabric selection
			9. The study of textiles
			10. Home care
			11. Kitchen planning
			12. Home furnishings
			13. Color and design in the home
			14. Flower arrangement
			15. Sewing for the home
			16. Making the home safer
			17. Managing the resources of the home
			18. Child development
			19. Infant care
			20. Care of small children
			21. Improving your personality
			22. Social interaction
			23. Dating and engagement
			24. Marriage
			25. Family Living
			26. Earning and spending money

If there are items not on this list that you would like to study write them on the bottom or on the back of this page.

A. Gembarosky

CHECKLIST

To be used before teaching a unit on operations with polynomials.

OBJECTIVES	YES	NO
The student can write numerical examples of the associative, commutative, and distributive properties of the real numbers.		
The student can write the additive inverses and multiplicative inverses of a random sample of real numbers.		
Given a composit whole number, the student can factor it into prime numbers.		
Given a set of whole numbers, the student can use the prime factorization method to find the L.C.M.		
The student can correctly identify the terms of polynomials provided by the teacher.		
The student can arrange the terms of simple polynomials in descending order.		
Given a polynomial, the student can give its degree.		
The student can evaluate polynomial expressions, given the values of the variables.		
Given expressions such as x^2, $(x+y^4$, etc., the student can write expressions equal to these without using exponents.		
Given a set of polynomials, the student can identify the monomials, binomials, and trinomials in the set.		
The student can correctly identify the coefficients of the terms of polynomials provided by the teacher.		

E. Wajda

TRIGONOMETRY 12TH GRADE

CHECKLIST

Graphing the Sin Function.

$y = \frac{1}{2} \sin \frac{1}{2} x$

Objectives	YES	NO
Knowledge of Computing the Period, $\frac{2}{\frac{1}{2}}$		
Recognizes the Amplitude, $\frac{1}{2}$		
Measures One Period on the X-Axis Beginning at the Origin		
Divides This Period into 4 Quarter Periods		
Locates the Points Where $y = \frac{1}{2}$ and $y = -\frac{1}{2}$ on the Y-Axis and Draws Lines Through Them Parallel to the X-Axis		
Blocks off the Period and Quarter-Period with Lines Parallel to the Y-Axis		
Starts the Sketch of $y = \frac{1}{2} \sin\frac{1}{2}x$ at the Origin		
Draws the First Quarter Cycle		
Completes the Cycle by Following Through with the Pattern Established in the First Quarter Cycle		
Repeats for the Desired Number of Cycles		